

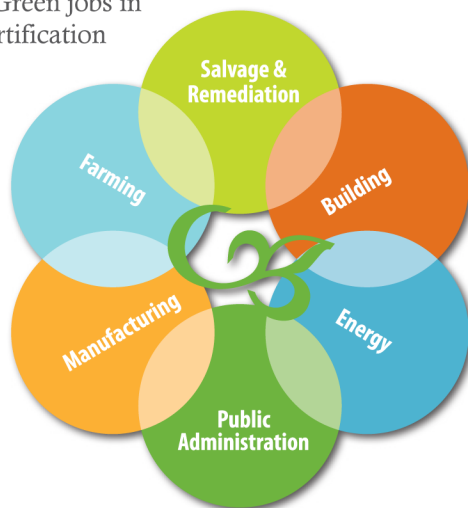
Missouri's guide to good opportunities in Green careers

Where are the Green Jobs?

Much has been said about the emerging Green Economy and the potential of Green Job opportunities. But what exactly are these opportunities, what is the earning potential for Green jobs in Missouri, and what are the skills, training, or certification needed to attain these jobs.

While a majority of Green Jobs and Green Businesses are currently concentrated in manufacturing and construction, government policies along with consumer demand are driving the growth of Green employment across a wide range of industries. Missouri has identified six sectors in its Green Economy. Workers in these sectors and others with traditional workforce skills may need to acquire additional knowledge and skills about Green practices to become an active participant in the Green Economy.

This guide will focus on potential Green job opportunities in Missouri, highlighting occupations with the most openings and those that are fast growing. It also contains information about transitioning from existing occupations into Green Jobs and where job seekers can search for training and job opportunities in the state.



Transitioning to Green Jobs... Most job openings in the Green Economy will not be new occupations, but rather traditional occupations, incorporating a new layer of green skills, knowledge, and credentials. These opportunities will be found across all industries and at all levels of education. The example below illustrates the potential for job seekers with skills in existing occupations to acquire specific training and/or certification and transition to potential green job opportunities.



Existing Occupations

- Carpenters
- Construction Laborers
- Construction Managers
- Electricians
- Insulation Workers
- HVAC Mechanics & Installers

Training

- Weatherization Program
- LEED* Certification
- Energy Efficiency & Conservation Training Program

Green Job Opportunity

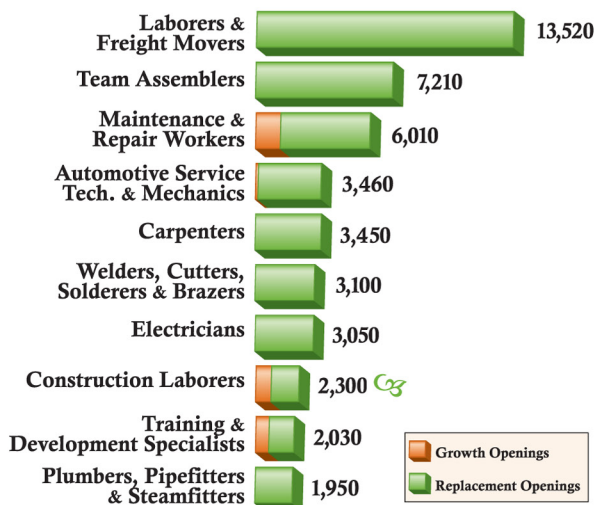
- Solar Thermal Installers & Technicians
- Weatherization Installers & Technicians
- LEED-Certified: Carpenters, Construction Laborers, Construction Managers, Electrical Contractors, HVAC Mechanics & Installers

* **Leadership in Energy and Environmental Design (LEED) Certification**—Individuals interested in the LEED Certification programs should contact the U.S. Green Building Council (USGBC) to find out more about the USGBC and its network of education providers. Please visit the website <http://www.usgbc.org/> or contact their customer service directly at 1-800-795-1747.



fastest growing

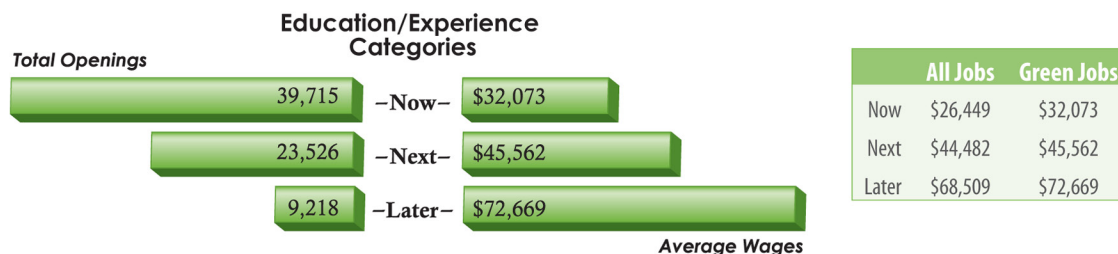
- The top ten green occupations by fastest growth rate are those with the largest percentage change in terms of new jobs.
- Eight of the top ten green occupations by growth rate offer an annual average wage of at least \$40,000.



most openings

- The top ten green occupations by total openings combine growth (new jobs) and replacement (jobs created by worker mobility or retirement).
- Seven of the top ten green occupations by total openings typically require short- to long-term on the job training.

As the education/experience required for green jobs increased from Now occupations to Next occupations to Later occupations, so too did earning potential. In fact, more so for green jobs than for all jobs in Missouri. For each education/experience category, green jobs offered a higher average annual wage compared to all jobs in those categories. When comparing the *All jobs* to *Green jobs* in Missouri, here's how they measure up:



Now Occupations typically require Short-Term On-The-Job Training or Moderate-Term On-The-Job Training—Next Occupations typically require Long-Term On-The-Job Training or Work Experience in a Related Occupation or Associate Degree or Vocational Education—Later Occupations typically require Bachelor's Degree or Bachelor's Degree Plus Work Experience or Master's Degree or Doctoral Degree or Professional Degree.

Missouri is projected to have nearly 830,000 job openings from 2008 to 2018. Some of these will be the green jobs of the present and future. The following highlights the green occupations which are projected to have the best long term outlook.

	Occupation Title (Green Core= )	Career Grade	Total Openings (10-yr. period)	Entry Wage	Avg. Wage	Exp. Wage	WorkKeys® Scores		
							AM	LI	RI
Moderate-Term On-The-Job Training	Construction Laborers 	B+	2,300	\$23,240	\$38,620	\$46,310	3	4	3
	Maintenance & Repair Workers, General	B+	6,010	\$21,680	\$34,270	\$40,570	4	4	4
	Operating Engineers & Other Const. Equip. Operators	B+	1,620	\$30,390	\$46,570	\$54,660	3	4	3
Long-Term On-The-Job Training	Electrical Power-Line Installers & Repairers	A-	1,520	\$38,130	\$53,750	\$61,560	4	4	4
	HVAC Mechanics & Installers	B+	1,310	\$26,120	\$40,880	\$48,260	4	5	4
	Industrial Machinery Mechanics	B+	1,370	\$29,080	\$43,550	\$50,780	4	5	4
	Carpenters	B	3,450	\$26,280	\$45,750	\$55,480	5	5	4
	Plumbers, Pipefitters, & Steamfitters	B	1,950	\$32,640	\$54,240	\$65,040	4	4	4
Postsecondary Vocational Award	Automotive Service Technicians & Mechanics	B+	3,460	\$20,570	\$34,900	\$42,070	3	4	4
	Electrical & Electronics Repairers, Comm. & Ind. Equip.	B+	400	\$28,510	\$47,950	\$57,660	5	4	5
Associate Degree	Environmental Engineering Technicians 	B	40	\$28,010	\$46,260	\$55,390	5	5	5
Bachelor's Degree	Civil Engineers 	A-	1,370	\$51,180	\$75,810	\$88,130	7	5	6
	Construction Managers	B+	770	\$46,050	\$82,580	\$100,850	6	5	5
	Environmental Engineers 	B	310	\$49,610	\$71,920	\$83,080	5	5	5
	Landscape Architects 	B	70	ND	ND	ND	5	5	5
	Architects, Except Landscape & Naval 	B-	480	\$39,050	\$65,800	\$79,180	7	6	5
	Chemists	B-	460	\$39,690	\$64,590	\$77,050	6	5	6
	Electrical Engineers	B-	560	\$56,330	\$79,160	\$90,570	7	5	6
	Electronics Engineers, Except Computer	B-	570	\$57,420	\$79,900	\$91,140	7	5	6
	Mechanical Engineers	B-	860	\$52,160	\$73,210	\$83,730	7	6	6
Bachelor's or Higher Degree, + Work Experience	Training & Development Specialists	A	2,030	\$30,320	\$49,530	\$59,140	5	4	5
	Engineering Managers	B-	480	\$77,070	\$104,880	\$118,790	6	5	5
	Natural Sciences Managers 	B-	230	\$64,290	\$105,450	\$126,030	6	5	6
Master's Degree	Environmental Scientists & Specialists 	B+	450	\$34,190	\$48,820	\$56,138	5	5	5
	Urban & Regional Planners 	B	142	\$39,084	\$53,398	\$60,555	5	5	5
	Geoscientists, Except Hydrologists & Geographers 	B-	48	\$38,819	\$60,815	\$71,814	5	5	6

* Career Grades are assigned by considering an occupation's job growth rate, total openings, and average wages relative to other occupations in the state. ** WorkKeys® is a national workforce development system that compares a worker's skills with the skills required to successfully perform a specific job. Scores are provided for three different core skill sets: Applied Mathematics (AM), Locating Information (LI), & Reading for Information (RI). *** ND denotes non-disclosed data due to confidentiality restrictions from the US Bureau of Labor Statistics.

— Certification & Training Programs —

Certification	Program Description	Target Audience
LEED Green Associate www.gbci.org	Tests knowledge and skills to support green design, construction, and operations. It is a precursor for professionals pursuing LEED AP.	Building related professionals: contractors, architects, planners, engineers, developers, inspectors
Entry Level Photovoltaic (PV) / Solar Thermal Certificate www.nabcep.org	Tests basic knowledge, comprehension and application of key terms and concepts of Photovoltaic (PV) and Solar Thermal systems operations.	Construction/Skilled trades. Entry-level
Certified Energy Auditor www.aeecenter.org/certification	Test knowledge of the principles and practices of energy auditing and compliance with prescribed standards of performance and conduct.	Facility managers, HVAC installers and related alternative energy installers including geothermal
Certified Building Analyst www.bpi.org/content/contractors	Written and field exam designed to test an individual's ability to conduct a thorough home performance evaluation, taking important characteristics into account.	Contractors and tradespeople
Green Advantage Environmental Certification www.greenadvantage.org	Tests understanding and familiarity with the latest in "green" building practices, technologies and techniques.	Contractors and tradespeople
Home Energy Rater; www.natresnet.org	Tests knowledge and compliance with the Home Energy Rating System (HERS) to inspect and evaluate a home's energy features.	Contractors and tradespeople

— Residential Construction Competency Model —

This ladder illustrates the foundational skills and technical competencies typically required for workplace success in the field of residential construction. The skills build up from the bottom of the ladder for the most foundational skills like personal skills and basic math. More technical competencies like the construction of home components are at the top of the ladder and represent those competencies often obtained through training and certification programs.



— Resources —

Missouri Green Jobs Report: (www.missourieconomy.org/occupations/green_report.stm) provides results from the first statewide survey of green-identified industry sectors.

Missouri Career Source: (www.missouricareersource.com) provides Missouri job seekers a search engine for all types of jobs.

Missouri Education and Career Hotlink: (www.missouricareersource.com/mech) includes lists of educational institutions offering post-secondary education (2 & 4-year public and private schools, technical/professional schools, and private proprietary schools).

Green For All: (www.greenforall.org/resources/green-collar-jobs-resources) connects job seekers looking for green-collar jobs with employers hiring green-collar workers.

Career Voyages: (www.careervoyages.gov/green-main.cfm) features jobs and links to opportunities in the green economy.

Green Jobs Network: (www.greenjobs.net) offers a listing of job boards that feature green job postings.

Green Biz: (<http://jobs.greenbiz.com>) offers a listing of green-collar jobs in solar and renewable energy, clean-tech, green building and sustainable businesses.

U.S. Green Building Council Career Center: (www.careercenter.usgbc.org) helps connect USGBC members with new employment opportunities.